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C O N F I D E N T I A L SECTION 01 OF 04 DUBAI 000101

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C O R R E C T E D C O P Y  
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QA, JO  
SUBJECT: WHO'S GOT THE JUICE? -- ELECTRICITY AND WATER LIMITATIONS  
THREATEN DUBAI'S BOOM

REF: ABU DHABI 45; B. 07 ABU DHABI 1927

DUBAI 00000101 001.3 OF 004

Classified By: CG Paul Sutphin, for reasons 1.4 b and d.

1. (C) Summary. Dubai's aggressive 11% per annum planned real GDP growth targets through 2015 are based on the assumption that sufficient power and water will be available for the massive development now underway. The Dubai Electricity and Water Authority (DEWA) is currently operating at close to capacity. While DEWA plans to more than triple current water and electricity generation over the next ten years, it faces two big hurdles - ensuring it has enough energy feedstock, largely gas in the short term, to meet needs, and financing this growth in the face of rising feedstock prices and declining profit margins. While some analysts assert the new Dolphin pipeline from Qatar will supply sufficient feedstock for the next three to four years, concerns exist that increasing electricity demands beyond the four year horizon could easily out-pace feedstock availability from the Dolphin pipeline. DEWA's aggressive expansion plans are estimated to cost USD 16.3 billion over the next five years. With profit margins significantly depressed due to delays in the Dolphin pipeline and increasing feedstock costs, DEWA will most likely be turning to the capital markets to fund the expansion. End Summary.

BIG (REALLY BIG) PLANS, LIMITED INFRASTRUCTURE

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2.(U) The hyperactive pace of property and commercial development continues in Dubai, well known for its oft-stated desire to aim for the biggest and the best (projects underway include the world's tallest building, Burj Dubai; the world's biggest artificial island, Palm Deira; and the world's largest airport, Maktoum International at Jebel Ali). According to the Dubai Strategic Plan for 2015, the emirate's ambitious goals over the next eight years include a projected 11% per annum real GDP growth through 2015. Underlying these plans are critical assumptions that Dubai (and the UAE) infrastructure development will be able to maintain pace with the proposed growth levels.

13. (C) However, the "Field of Dreams" development theory - "if you build it, they will come" - that has served as Dubai's (and to some degree, the UAE's) unofficial development thesis now faces a critical challenge: increasingly scarce power and water supplies. On March 6, PolEcon Off met with Moody's Middle East Philipp Lotter (Vice President, Senior Credit Officer-Corporate Finance), Peter Carvalho (Vice President, Senior Analyst-Financial Institutions) and Tristan Cooper (Vice President, Senior Analyst-Sovereign Risk Unit) to discuss the significant challenges facing Dubai Electricity and Water Authority (DEWA) under the Dubai Strategic Plan. As Lotter succinctly stated, "it is infrastructure, not geo-political issues, which will provide the biggest challenge to Dubai's sustained development."

4.(SBU) Unlike Abu Dhabi, and some Gulf countries, the Dubai government has not approved any Independent Water and Power Production (IWPP) projects, thus maintaining DEWA's monopoly position. It does not rely on the small Federal Electricity and Water Authority, though it does buy electricity directly from the Emirate of Abu Dhabi.

15. (C) While to date DEWA has managed to keep up with rapidly increasing demand, its ability to continue to do so is being increasingly questioned. (Note. There are numerous, unconfirmed, anecdotal reports that a lack of electricity and water capacity has already delayed progress on some of Dubai's new developments, including the high-profile Jebel Ali airport. End note.) According to 2006 statistics (the most recently publicly available), DEWA has total electricity capacity of 4,599 Megawatts (MW), with peak demand over the hot summer months of 4,113 MW (90% of total capacity, which Lotter considers an acceptable margin). Water is more constrained, with DEWA's 2006 capacity of 225 million imperial gallons per day (MIGD) and peak demand of 218 MIGD (with peak demand at 97% of capacity, DEWA is reaching the upper threshold on water production). According to Moody's, in 2006 DEWA produced 98% of all electricity consumed in Dubai (the remainder was over-tariff priced purchases from the Emirate of Abu Dhabi. Another Embassy source placed purchases from Abu Dhabi at approximately 600 MW in 2007).

DUBAI 00000101 002.3 OF 004

#### DEMAND-PULL POWER AND WATER EXPANSION PLANS

6..(SBU) DEWA is making a major effort to upgrade and expand its electricity and water production capacity to meet the surging demand. According to Lotter, DEWA will need to more than triple its current power and water generation capacity over the next 10 years to 21.9GW and 1.1BIGD billions of imperial gallons respectively. To reach these goals, DEWA plans construction of a 1.9GW/140MIGD power/desalination plant in Jebel Ali scheduled for 2010 (known as the 'M Station') and 2 additional facilities in Hassyan with a combined 9GW/600MIGD capacity (known as 'P Station' and 'Q&R Station'). However, DEWA faces two big hurdles as it moves to massively expand its plant capacity - ensuring it has enough energy feedstock, largely gas in the short term, to meet needs, and financing this growth in the face of rising feedstock prices and declining profit margins.

#### CHALLENGE ONE -- FINANCING THE GROWTH

7.(C) Moody's estimates the aggressive capital expansion plan outlined by DEWA will cost USD 16.3 billion over the next five years. Until 2006, DEWA had funded all growth internally; however weaker earnings and increased investment requirements forced DEWA to turn to both the Dubai government and the market for capital. As of third quarter 2007, DEWA reported approximately USD 3.5 billion total debt. In late 2007, DEWA had planned to raise USD 2.5 billion in Islamic and conventional bonds. According to press reports, the bond issuance was

temporarily shelved due to borrowing costs. A recent Gulf News article speculated that if the market recovers, DEWA might re-enter the bond market by June 2008. (Comment: given world-wide capital market deterioration, we believe DEWA will delay floating a bond issue until late 2008/ early 2009, and again turn to the government for short-term bridge notes to cover 2008 capital expansion requirements. End comment.)

18. (U) On March 13, 2008 DEWA announced that it had signed 6 contracts worth AED 12 billion (roughly USD 3.3 billion) with local and foreign firms for electricity generation, water desalination, water reservoirs, substations and pipelines. Included in the contracts was AED 6.2 billion (USD 1.69 billion) for construction of the new 'M Station' at Jebel Ali (which will produce 1.9GW of electricity and 140 MIGD water to be completed in 2010); AED 155 million (USD 42.2 million) to fund a 20-inch diesel fuel oil pipeline from the Jebel Ali Free Zone to the Aweer Power Station (also known as 'H Station' and used to produce additional electricity during peak times); AED 260 million (USD 70.8 million) for the construction of a water reservoir at Mushrif (with 180 million gallons storage capacity); AED 816 million (USD 222.3 million) for two substations in Barsha and Nad al Sheba; and an undisclosed amount for a transformer station at Techno Park to supply electricity to the industrial zone, Dubai Industrial City, Jebel Ali and Airport City.

COSTS UP, PROFITS DOWN

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9.(SBU) All DEWA power plants currently run on natural gas or fuel oil. Overall operating costs have been negatively impacted by recent steep increases in feedstock costs; consumer prices had not been increased since 1998, which has squeezed DEWA's bottomline. According to Lotter, DEWA's earnings before interest, taxes, depreciation and amortization (EBITDA) dropped almost 75% from a margin of 40.1% in 2005 to just 10.3% in 2006 (primarily due to higher feedstock prices).

10. (C) 2007 margins, while not yet publicly available, are anticipated to be even worse, given the delayed completion of the Dolphin gas pipeline. The Dolphin project, the first cross-border natural gas pipeline in the Middle East, was supposed to have begun delivery of its own natural gas from Qatar's North Field in early 2007. Dolphin's gas began to be

DUBAI 00000101 003.3 OF 004

delivered in July, but did not reach full capacity until February 2008. Due to the delay, DEWA was forced to purchase "early gas" from Qatar Petroleum (reportedly at USD four per thousand cubic foot), and fuel oil on the expensive spot market, further depressing 2007 margins. But as March 2008, according to Lotter, DEWA is drawing more than 80% of its feedstock from Dolphin. (Note. Another Embassy contact, an Abu Dhabi-government official, thinks 80% is overstated and speculated Dolphin might be providing between half to 70% of DEWA feedstock. He suggested that Abu Dhabi National Oil Company (ADNOC) might still be supplying DEWA with incremental feedstock, as they had during 2007; though apparently the ADNOC supply was supposed to terminate once Dolphin reached full capacity. End Note.)

CHALLENGE TWO - WHERE'S THE GAS (OR OTHER FEEDSTOCK)?

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11. (C) The Moody's analysts believe the 25 year contract between Dolphin and the Dubai Supply Authority (a government owned agency responsible for Dubai's gas and oil procurement, and the contractual source for DEWA feedstock) will reduce DEWA's risk to feedstock volatility over the next 3 to 4 years. However, Lotter and Cooper were quick to note that while the company may be financially solid for the short term, increasing electricity demands beyond the four year horizon could easily out-pace feedstock availability from the Dolphin pipeline. The

analysts dismissed the widely-assumed other possible sources of gas, Iran (which Cooper quickly rejected as "never happening"), and Saudi Arabia (which Cooper noted has its own potential long-term feedstock concerns); they also noted alternative energy possibilities, including nuclear, solar, liquid nitrogen gas (LNG), and coal. (Comment: Despite the skepticism from Moody's regarding the possibility of Dubai purchasing Iranian gas, there is consideration by the Dubai leadership of just such a deal, according to senior Dubai interlocutors. Although the National Iranian Oil Company deal with Crescent Petroleum/Dana gas is still stalled due to pricing disagreements between Crescent and Iran, the infrastructure (including pipeline and processing facilities) on the UAE side of the border is completed and would provide a medium for Iranian gas to move to the UAE and possibly Dubai. End Comment.)

¶12. (SBU) Dubai's future feedstock shortage problems mirror UAE problems as a whole. As part of the UAE's consideration of peaceful nuclear power (reftel), the government projected UAE electricity demand to triple by 2020 (an average annual growth rate of about 9%). For its part, DEWA has already started exploring coal as an alternative, announcing in late February 2008 a deal with Skyline Services of Canada, Sino Global International of the US and China's Samena Power and Energy to build a power station in Hassyan that runs on hydrogen extracted from coal.

INCREASED RATES EQUAL MORE PROFIT, LESS CONSUMPTION (WE HOPE)

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¶13. (C) Responding to financial and consumption concerns, DEWA is now raising rates for the first time since 1998. Usage-based tariff increases for expatriate residential customers and most commercial and industrial customers (Emirati residential and farm customers were specifically omitted from the tariff increase) became effective March 1, 2008. The new tariffs have a tiered structure encouraging conservation and penalizing the heaviest users. According to Lotter, the new tariff structure will address the short-term, three to four year, concerns about the DEWA balance sheet. Beyond that, he was unwilling to speculate. Carvalho and Cooper pointed out the importance of conservation to the water and electricity sector. Both expressed optimism that the new tariffs could encourage the largest consumers, such as hotels and office complexes, to move towards more green initiatives, ultimately reducing demand growth. However, they were quick to observe that to date, Dubai has yet to make substantial inroads on conservation. (Note. According to the 2006 World Wild Life Fund's Living Planet Report, the UAE is the highest consumer of natural resources per capita world-wide. End note).

DUBAI 00000101 004.3 OF 004

COMMENT

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¶14. (C) The Northern Emirates have it worse off than Dubai, facing current power shortages that are directly affecting development plans; US firm Guardian's new \$167 million float glass plant in the emirate of Ras al Khaimah was originally denied power by FEWA (ref B), although it is now receiving 4MW per day, which is still less than requirements. It is making up the difference with a combination of emergency generators and power shifted from elsewhere in the small emirate. Local press has been citing the Emirates National Grid and a possible GCC Electrical Grid as potential "saviors" to individual emirate energy shortages. However, Dubai is already connected to--and buying electricity from-- Abu Dhabi, the one emirate (with more than 90 percent of the UAE's petroleum and natural gas reserves) that is likely to have feedstock for electrical generation. The Emirates National Grid, when completed, will enable the various authorities to more efficiently "wheel" power from one emirate to another, but does not change the bottom line - Dubai, and the entire country - need more power production capacity, and the

feedstock flow to produce this power, if ambitious development plans are to be supported.

¶15. (C) While none of the Moody analysts expect Dubai to experience major black-outs in the near future, none of them seem hopeful that the planned infrastructure projects and new grid will resolve the underlying issues beyond a three to four year horizon. For the Dubai Strategic Plan to succeed, Dubai will likely need to go beyond its current marketing-oriented push for conservation and make some hard decisions about energy pricing and mandated consumption changes. This will be a hard sell to a population now used to air conditioned-everything (even Dubai's new bus stops), driving gas-hogging SUVs and maintaining lush green lawns in the middle of a desert. Concurrently, Dubai must look for alternate sources of energy. Optimally, any serious move toward alternative energy would be undertaken in close coordination with federal energy authorities to develop a solution that meets the needs of all seven emirates. Unfortunately, such rational, inter-emirate planning has often been difficult to achieve (as demonstrated by the lack of connectivity between Dubai's new metro project and the neighboring emirate of Sharjah, where tens of thousands Dubai workers live). Abu Dhabi's current evaluation of peaceful nuclear power, on behalf of the UAE, is one possible solution to the UAE's overall electricity problem. End Comment.  
SUTPHIN